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Linguostylistical Features of Scientific-Popular Texts

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Abstract:

The development of the modern world is impossible without the development of the scientific sphere. This indicates the need to consolidate and provide it not only to specialists in various fields of scientific life who have knowledge in these areas, but also to a wide range of readers in order to allow them to have an idea of what changes are taking place in the world. Since not all scientific style texts can be understood by a wide range of readers, scientists have identified a popular science substyle of scientific functional style. Thanks to this substyle, it will be easier for the reader to assimilate this scientific information, since there is a certain decrease in the distance between scientific knowledge and the reader. Like all functional styles and their sub-styles, the texts of the popular science sub-style have their own lexical, grammatical and stylistic features that have not been fully studied.

Keywords: language, style, scientific-popular, texts, lexical meaning, grammatical meaning, expressive language

Introduction

The purpose of this work is to identify the linguistic and stylistic features of popular science English-language texts in English. We conducted a study during which English-language articles of various thematic focus were analyzed. In total, we analyzed 5 articles, which are included in the list of references.

The scientific style has its own characteristics in the field of vocabulary, which distinguish it from other styles. It should be noted that this feature is revealed both in English and in Russian.

The popular science sub-style is a variant of the scientific functional style, characterized by accessibility, fascination, simplicity and clarity of presentation. The main purpose of this sub-style is to popularize scientific literature. The texts of the popular science substyle are addressed to a wide readership, since this substyle is characterized by a simplified presentation. This, in turn, shows that recipients do not need to have any specific knowledge in a particular area [2, p. 113].

Main body

At the lexical level, we found in the texts of the popular science substyle the presence of commonly used vocabulary and terminology, which is explained with the help of footnotes, clarifications, and information in brackets. For example: Insomnia is a sleep disorder that affects as many as 35% of adults. It is marked by problems getting to sleep, staying asleep through the night, and sleeping as long as you would like into the morning [9]. In this case, the author explains in an "accessible" language, without various complex scientific terms, which implies insomnia. An annular eclipse is explained by a detailed sentence. We can see this in the following sentence: It is marked by problems getting to sleep.

The terminology of the popular science sub-style is more accessible to readers. This is due to the presence of commonly used vocabulary in popular science texts, for example, "getting to sleep", "staying asleep through the night".

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Scientific functional style is used to convey objective information, which leads to an impersonal manner of presenting the material. The reason is that the main thing in scientific work is the concept and the arguments that the author wants to convey, and not himself and his opinion. To avoid using the pronoun of the first person as a subject, implying the author's opinion, a noun from a certain circle of this specific knowledge or means of secondary nomination are used, which are personal and demonstrative pronouns, adverbs pointing to such a noun [1, p. 253]. Consequently, impersonal constructions can be found in scientific texts: It is estimated that 40% [9]; There's also the question [6]; It is marked by problems [9].

The popular science substyle offers an acquaintance with the described phenomena and facts, specific results and conclusions are not indicated. In the course of the analysis, we found that the authors of popular science texts do not draw conclusions from the work, but only indicate some important points or directly complete their work with some fact: “Archer hopes this is the start of a shift towards better working environments across a range of sectors. Giving people the power to solve their own work problems, and helping them to keep their long-term aspirations and values in sight: this is the future,” he says [5]. The author did not draw conclusions from his work, but made a reference to the words of another scientist.

Popular science texts contain personal pronouns, for example: “can throw off your sleep timing” [9], “priming you for action” [5], “we do after we wash our hands” [7], “you can do "[8], "they have a cold" [5], "we're still a long way from reaching AGI [6]". In these examples, personal pronouns are used to indicate the addressee and to give the scientific text a "dialogical" character.

The texts of the popular science substyle combine elements of colloquial speech, which is reflected in compression, which leads to incompleteness of expression and redundancy. In addition, we found morphological and lexical compression. This manifested itself in the abbreviated form of auxiliary verbs: "person's body can't adjust" [9], "it's important", "don't become" [5], "population doesn't have" [7]. In addition, at the lexical level, we found the omission of one word, for example: P. gingivalis (from Porphyromonas gingivalis) [8]. Compression in this case is used in order to be closer to the reader and make it easier for him to perceive the text.

At the lexical level, the use of phrasal verbs and idioms was found, which popularizes scientific knowledge: “falling asleep or staying asleep” [9], “take time off for illness” [5], “pick up loads” [7], “condition could come down to” [4], “Time after time” [6], “day off per year” [5]. The use of these units simplifies the perception of the text by readers, since these units are often used in colloquial speech.

The use of direct questions to the reader, which are used as an expressive means of language to attract attention:

- What Causes Insomnia? [nine]
- Is hand-washing really a panacea? [7]
- What exactly is artificial intelligence (AI)? [6]
- Still, is the simple act as effective at thwarting microbes as we think? [7]

In order to express the information more precisely, popular science texts are replete with proper names: “the US National Institutes of Health spent $1.9 billion” [8], “Frank Bond at Goldsmiths, University of London” [6], “the American Journal of Public Health” [7]. As you can see, the authors of the articles refer to the studies of other scientists, which is manifested in the use of proper names, in our case, these are the names of organizations and the names of scientists.

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In addition, the authors of the articles point to various numerical designations, facts: “in 30-48%” [9], “49 per cent of all working days” [5], “in the UK in 2016-17” [5], which demonstrates the reliability of the information offered to the reader.

Accuracy is the next characteristic of the popular science style. It consists in the use of special vocabulary and terminology: There are also consequences for physical health: studies have shown that long-term stress leads to a compromised immune system, contributing to debilitating headaches, digestive disorders and cardiovascular disease [5]; Problems affecting the brain, including neurodegenerative and neurodevelopmental disorders, have been found to be associated with an elevated risk of insomnia [9].

Based on the above examples, it can be seen that the terms used in this sub-style have a strictly precise meaning and refer to certain branches of science: “cardiovascular disease” - cardiovascular diseases; "personality disorder" - a personality disorder; "digestive disorders" - digestive disorders; "neurosis" - neurosis, "neurodegenerative and neurodevelopmental disorders" - a neurodegenerative disorder and impaired development of the nervous system. In addition, the terminology is unambiguous and independent of context.

It is also necessary to note the presence of bookish words: "contributing", "debilitating", "consequences". These words are long, polysyllabic, borrowed. They have a specific denotative meaning and are characterized by the absence of any connotations.

The use of verbs expressing actions and states associated with the object of study was also noticed: It depends on [6], that exist to prevent good hand washing practice [7]. In these examples, such verbs are "depend" and "exist". The listed groups of verbs together have an influencing function on the addressee.

The next feature of popular science texts is the use of nouns in the common case as prepositive attributes. Thanks to the use of a multicomponent phrase, the authors of scientific works can convey more information with a small number of grammatical means [4, p. 2]. In addition, the above constructions have a term-forming function. For example: "excessive daytime sleepiness" - excessive daytime sleepiness [9]; "artificial intelligence" - artificial intelligence [6]; "strep throat" - acute pharyngitis [5]; "shortness of breath" - shortness of breath [4].

It was found that the texts of the popular science substyle are characterized by coherence. This characteristic represents lexical and grammatical connections both within the whole text and in a separate sentence. This is achieved through links between parts of the academic text: As to how P. gingivalis might cause dementia after it arrives in the brain, there are two clear possibilities. It may trigger the release of amyloid, the brain’s method of trying to contain the infection, and this may then kill neurons [4].

In this example, you can also track coherence both within the whole text and in a separate sentence. In this case P. gingivalis" is replaced by "it" in the first sentence. In addition, it is also replaced by "it" and "this" in the next sentence. This is necessary to combine lexical and grammatical connections both within the whole text and in a separate sentence.

Conclusion

At the end of the study, we concluded that popular science texts are aimed at transmitting scientific information to an audience unprepared for its perception, and this is reflected at the lexical, grammatical, syntactic levels. Because the popular science sub-style promotes scientific knowledge, it shares many of the characteristics of other functional styles. In addition, the texts of

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this substyle are characterized by a logical sequence of presentation of the material, which is reflected in the syntactic organization of sentences.

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